

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Please add new claim 30.

Please amend claims 5, 6, 9, 18, 20 and 24 as indicated below. In the amended claims, material to be inserted is in **bold and underline**, and material to be deleted is in ~~strikeout~~ or (if the deletion is of five or fewer consecutive characters or would be difficult to see) in double brackets [[]].

Listing of Claims:

1-4. (Cancelled)

5. (Currently Amended) A printing device configured to print a printing fluid onto a printing medium, the printing device comprising:

a printing fluid reservoir configured to hold a volume of the printing fluid;

a print head assembly configured to transfer the printing fluid to the printing medium, wherein the print head assembly is fluidically connected to the printing fluid reservoir; and

a printing fluid detector configured to detect a characteristic of the printing fluid, wherein the printing fluid detector includes a first electrode and a second electrode configured to be in contact with the printing fluid, wherein at least one of the first electrode and the second electrode provides a hollow interior that the printing fluid passes through and includes an electrically conductive coating disposed on an inner

Page 2 - AMENDMENT ACCOMPANYING REQUEST ...

Serial No. 10/632,081

HP Docket No. 10019128-1

KH Docket No. HPCC 394

surface of the hollow interior and over an electrically conductive substrate, and wherein the electrically conductive coating is permeable to printing fluid—and—is configured to increase the effective surface area of the electrode accessible to the printing fluid.

6. (Currently Amended) A printing device configured to print a printing fluid onto a printing medium, the printing device comprising:

a printing fluid reservoir configured to hold a volume of the printing fluid;
a print head assembly configured to transfer the printing fluid to the printing medium, wherein the print head assembly is fluidically connected to the printing fluid reservoir; and

a printing fluid detector configured to detect a characteristic of the printing fluid, wherein the printing fluid detector includes a first electrode and a second electrode configured to be in contact with the printing fluid, and wherein at least one of the first electrode and the second electrode provides a hollow interior that the printing fluid passes through and includes an electrically conductive coating made at least partially from an electrically conductive polymer, and disposed on an inner surface of the hollow interior and over an electrically conductive substrate.

7. (Original) The printing device of claim 6, wherein the electrically conductive polymer is selected from the group of electrically conductive polymers consisting of polypyrroles, polyanilines, polythiophenes, conjugated bithiazoles and bis-(thienyl) bithiazoles.

Page 3 - AMENDMENT ACCOMPANYING REQUEST ...
Serial No. 10/632,081
HP Docket No. 10019128-1
KH Docket No. HPCC 394

8. (Original) The printing device of claim 6, wherein the electrically conductive polymer is cross-linked.

9. (Currently Amended) A printing device configured to print a printing fluid onto a printing medium, the printing device comprising:

- a printing fluid reservoir configured to hold a volume of the printing fluid;
- a print head assembly configured to transfer the printing fluid to the printing medium, wherein the print head assembly is fluidically connected to the printing fluid reservoir; and

- a printing fluid detector configured to detect a characteristic of the printing fluid, wherein the printing fluid detector includes a first electrode and a second electrode configured to be in contact with the printing fluid, and wherein at least one of the first electrode and the second electrode provides a hollow interior that the printing fluid passes through and includes an electrically conductive coating resistant to corrosion by printing fluid, the coating disposed on an inner surface of the hollow interior and within an electrically conductive substrate.

10-15. (Cancelled)

16. (Previously Presented) The printing device of claim 9, wherein the electrically conductive coating is a protective polymer coating, further comprising a printing fluid-permeable electrically conductive polymer coating disposed over the protective polymer coating.

Page 4 - AMENDMENT ACCOMPANYING REQUEST ...
Serial No. 10/632,081
HP Docket No. 10019128-1
KH Docket No. HPCC 394

17. (Cancelled)

18. (Currently Amended) A printing device configured to print a printing fluid onto a printing medium, the printing device comprising:

- a printing fluid reservoir configured to hold a volume of the printing fluid;
- a print head assembly configured to transfer the printing fluid to the printing medium, wherein the print head assembly is in fluid communication with the printing fluid reservoir; and

- a printing fluid detector configured to detect a characteristic of the printing fluid, wherein the printing fluid detector includes a first electrode and a second electrode configured to be in contact with the printing fluid, wherein at least one of the first electrode and the second electrode provides a hollow interior that the printing fluid passes through and includes an electrically conductive coating permeable to printing fluid, the coating disposed on an inner surface of the hollow interior and over an electrically conductive substrate, and wherein the electrically conductive coating includes a plurality of interior surfaces contactable by the printing fluid.

19. (Original) The printing device of claim 18, wherein the electrically conductive coating is porous.

Page 5 - AMENDMENT ACCOMPANYING REQUEST ...
Serial No. 10/632,081
HP Docket No. 10019128-1
KH Docket No. HPCC 394

20. (Currently Amended) A printing device configured to print a printing fluid onto a printing medium, the printing device comprising:

a printing fluid reservoir configured to hold a volume of the printing fluid;

a print head assembly configured to transfer the printing fluid to the printing medium, wherein the print head assembly is in fluid communication with the printing fluid reservoir; and

a printing fluid detector configured to detect a characteristic of the printing fluid, wherein the printing fluid detector includes a first electrode and a second electrode configured to be in contact with the printing fluid, and wherein at least one of the first electrode and the second electrode provides a hollow interior that the printing fluid passes through and includes an electrically conductive coating at least partially made of a polymer that is permeable to the printing fluid, the electrically conductive coating being disposed on an inner surface of the hollow interior and within an electrically conductive substrate.

21. (Original) The printing device of claim 20, wherein the polymer is selected from the group consisting of polypyrroles, polyanilines, polythiophenes, conjugated bithiazoles and bis-(thienyl) bithiazoles.

22. (Original) The printing device of claim 20, wherein the polymer is cross-linked.

23. (Cancelled)

Page 6 - AMENDMENT ACCOMPANYING REQUEST ...
Serial No. 10/632,081
HP Docket No. 10019128-1
KH Docket No. HPCC 394

24. (Currently Amended) A printing device configured to print a printing fluid onto a printing medium, the printing device comprising:

a printing fluid reservoir configured to hold a volume of the printing fluid;

a print head assembly configured to transfer the printing fluid to the printing medium, wherein the print head assembly is in fluid communication with the printing fluid reservoir;

a printing fluid detector configured to detect a characteristic of the printing fluid, wherein the printing fluid detector includes a first electrode and a second electrode configured to be in contact with the printing fluid, and wherein at least one of the first electrode and the second electrode includes provides a hollow interior that the printing fluid passes through and an electrically conductive coating permeable to printing fluid, wherein the permeable coating is disposed on an inner surface of the hollow interior and within an electrically conductive substrate; and

an electrically conductive protective coating disposed between the electrically conductive substrate and the electrically conductive coating permeable to printing fluid, wherein the protective coating is at least partially made of a TEFLON material.

25-28. (Cancelled)

Page 7 - AMENDMENT ACCOMPANYING REQUEST ...
Serial No. 10/632,081
HP Docket No. 10019128-1
KH Docket No. HPCC 394

29. (Previously Presented) The printing device of claim 16, wherein the printing fluid-permeable electrically conductive polymer coating is made at least partially of a material selected from the group consisting of polypyrroles, polyanilines, polythiophenes, conjugated bithiazoles and bis-(thienyl) bithiazoles.

30. (New) A printing device configured to print a printing fluid onto a printing medium, the printing device comprising:

- a printing fluid reservoir configured to hold a volume of the printing fluid;
- a print head assembly configured to transfer the printing fluid to the printing medium, wherein the print head assembly is fluidically connected to the printing fluid reservoir; and
- a printing fluid detector configured to detect a characteristic of the printing fluid, wherein the printing fluid detector includes a first electrode and a second electrode configured to be in contact with the printing fluid, wherein at least one of the first electrode and the second electrode provides a hollow interior that the printing fluid passes through and includes an electrically conductive coating disposed over an electrically conductive substrate, and wherein the electrically conductive coating is permeable to printing fluid and is configured to increase the effective surface area of the electrode accessible to the printing fluid.

Page 8 - AMENDMENT ACCOMPANYING REQUEST ...
Serial No. 10/632,081
HP Docket No. 10019128-1
KH Docket No. HPCC 394